REMARKS

SUMMARY OF THE EXAMINER'S REJECTIONS

In the Office Action, Claims 16-38 were rejected under 35 U.S.C. § 112, first paragraph based on a view that the subject matter of an "acid impervious" polymer particulate and the limitation "having a curing temperature lower than a maximum acid-impervious temperature level of the particulate" are not supported by the original disclosure. Additionally, as understood, Claims 16 and 37-38 were rejected based on a view that the limitation of "500°F" as used in these claims are not supported by the original disclosure.

Moreover, as understood, the Examiner maintained the rejections under 35 USC § 112, second paragraph for claims reciting the subject matter of "high curing temperature" and "maximum acid-impervious temperature" as being indefinite.

Lastly, the Examiner considered Applicant's arguments filed July 14, 2003 but considered them moot or not persuasive, as understood, in view of the new ground(s) of rejections identified above. In particular, as understood, the Examiner maintains that the lower limit of "high curing temperature" is not supported in the original disclosure based on a view that the curing temperature may be different compared to the operating cured temperature of the adhesive.

REASONS REJECTIONS ARE BELIEVED TO HAVE BEEN OVERCOME

SUMMARY

Claim 16 and its dependent claims have been amended or cancelled to overcome the Examiner's rejections with respect to 35 USC § 112, first paragraph. In particular, the claim language referring to "acid impervious," "high curing temperature," "the adhesive having a curing temperature lower than a maximum acid-impervious temperature level of the particulate," "the adhesive has a curing temperature above about 500°F," and "maximum acid-impervious temperature" has been deleted by this Amendment.

Additionally, amended Claim 16 specifies that the particulate is a polyamide polymer particulate and the temperature range at which the composite structure is able to

produce the formed composite part, specifically, between 500°F and 700°F. In sum, the above identified amendments to Claim 16 and its dependent claims are believed to overcome the Examiner's rejections and place the same into condition for allowance.

Moreover, Applicants request that new Claim 40 and its dependent Claims 41-46 be added into the prosecution. New Claim 40 and its dependent claims are believed to be in condition for allowance based on a view that the same do not refer to the claim language deleted from Claim 16 and its dependent claims, as identified above. Additionally, these claims more clearly identifies the problem to be solved and the mixture which prevents acid from the composite part from leaching iron from the metal surface at temperatures up to 700°F. In sum, Applicants believe that independent Claims 16 and 40 and their corresponding dependent Claims 31, 36, 39 and 41-46, respectively are in condition for allowance.

CLAIM 16

In the Office Action, the Examiner rejected Claim 16, as understood, for failing to comply with 35 USC 112, first paragraph based on a view that the claim language "having deposited thereon an adhesive mixture of an acid-impervious polymer particulate and a high curing temperature powder adhesive to adhere the particulate to the steel surface, the adhesive having a curing temperature lower than a maximum acid-impervious temperature level of the particulate, the adhesive mixture being operative to form an acid impervious barrier at temperatures above 500°F" was not supported by the original disclosure.

In response, Applicants have deleted the claim language referring to "acid impervious" and "a high curing temperature powder adhesive to adhere the particulate to the steel surface, the adhesive having a curing temperature lower than a maximum acid-impervious temperature level of the particulate, the adhesive mixture being operative to form an acid impervious barrier at temperatures above 500°F." Additionally, Claim 16 has been amended to recite temperatures levels, specifically, between 500°F and 700°F, at which the mixture is able to produce a formed composite part and the particulate as being a polyamide.

The claim language of Claim 16 amended by this Amendment is believed to be supported by the original disclosure. For example, the support for the polyamide particulate is found on page 5, lns. 2-5 which recite that "the ... coating ... comprises a ... polymer particulate, most preferably a polyamide particulate." (Emphasis added.) The support for the upper limit of the temperature range, namely, 700°F is found on pages 2 and 3 which recites the "fixture ... having a coating thereon which is temperature resistant up to about 700°F."[1] And, the support for the lower limit of the temperature range, namely, 500°F is found in conjunction with the problem to be solved which is stated in the BACKGROUND OF THE INVENTION. In particular, the background recites that composite material contains acid which leaches iron from a metal surface when the composite part contacts the metal surface and the composite part is formed on the metal surface at temperatures above 500°F.[2] Additionally, the background recites that the present invention solves the problem to be solved[3] by rendering the metal surface acid impervious[4] which may be understood to mean that the coating (i.e., particulate dispersed in the cured adhesive) is able to produce a formed composite part at temperatures above 500°F (i.e., lower limit of the claimed temperature range). As such, Claim 16 as amended is believed to be supported by the original disclosure and in condition for allowance.

DEPENDENT CLAIMS 31, 36 AND 39 OF CLAIM 16

The dependent claims of independent Claim 16 are believed to contain additional patentable subject matter. For example, currently amended Claim 31 recites that the cured operating temperature of the adhesive and particulates are greater than a leaching temperature of the part. Claim 31 is believed to be novel and non-obvious in view of the prior art based on a view that the prior art does not disclose, as understood, the leaching

[1] The dictionary definition of the term "resistant" may mean "to remain firm against the action of or effect of." (American Heritage Dictionary, The Second College Edition, s.v. "resist.") In this regard, as understood, the characteristics of the coating that remains for temperatures up to 700°F are (1) the acid impervious nature of the coating and (2) the ability of the coating to produce a full utility composite part.
[2] Page 2, lns. 2-10 recite "composite materials that cure above 500°F will corrode the steel fixture... It has been found that the reason for the ... corrosion ... is due to acid from the composite material acting to leach iron from the steel fixture."
[3] The problem to be solved is that composite part leaches iron from the metal surface when the composite part and the metal surface are raised to a temperature above 500°F.
[4] Page 2, lns. 15-16.

temperature and its relationship to an operating temperature of the coatings. Hence, the dependent Claims 31, 36 and 39 are believed to be in condition for allowance.

NEW INDEPENDENT CLAIM 40

Applicants respectfully request entry of new Claims 40-46 into prosecution. Applicants believe that Claim 40 is believed to be in condition for allowance based on a view that Claim 40 tracks and has a similar scope compared to amended Claim 16. For example, "element a" of new Claim 40 recites a metal surface and relates the metal surface to a leaching temperature defined with respect to the composite part. Additionally, the leaching temperature is related to a forming temperature (i.e., above 500°F) defined in the preamble of new Claim 40. Moreover, "element b" of new Claim 40 recites the mixture as being polyamide polymer particulates dispersed within a cured adhesive, and more particularly, the operating temperature of the mixture as being up to 700°F. Additionally, the operating temperature is a temperature at which the acid from the composite part is prevented from leaching iron from the metal surface thereby solving the problem to be solved.

New Claim 40 is additionally believed to overcome the Examiner's rejections with respect to 35 USC § 112, first and paragraphs based on a view that the same does not incorporate any of the claim language identified by the Examiner as being not supported by the original disclosure and as being indefinite.

The claim language of new Claim 40 is supported by the original disclosure. In particular, the preamble recites that the composite part has the forming temperature of above 500°F. The basis for this claim language is found on page 2, lns. 3 - 4. This reference refers to the composite part having a curing temperature. This term "curing temperature" may be confusing with the term "cured adhesive" recited in the claim elsewhere, and in this regard, new Claim 40 incorporates the term "forming temperature" instead of "curing temperature." The basis for "element a" is found on page 2, lns. 3-5 read in conjunction with leaching discussion beginning on page 2, ln. 7. In particular, the specification states that the composite part corrodes the metal surface when elevated past a certain temperature. The specifics of the corrosion is explained in the leaching discussion beginning on page 2, ln. 7. This paragraph states that the corrosion is due to

the acid from the composite part leaching iron from the metal surface. Therefore, the leaching temperature is the temperature at which acid from the composite part leaches iron from the metal surface. Additionally, this illustrates that the forming temperature is greater than the leaching temperature based on a view that if the leaching temperature was greater than the forming temperature, then the acid from the composite part would not leach iron from the metal surface.

The basis for "element b" is found within the specification. In particular, the basis for the claim subject matter of "700°F" is found within the specification as discussed above in relation to the upper limit of the temperature range in relation to Claim 16. The basis for the subject matter of the "operating temperature being ... a temperature at which the mixture when interposed between the composite part and metal surface prevents acid from the composite part from leaching iron from the metal surface to produce a full utility part out of the structure" is found on page 3 ln. 22, which states that the composite part is placed on the coated fixture and is raised to the forming temperature. And, the next sentence states that the mixture adhered to the metal surface prevents the danger of leaching iron from the metal surface to thus assure full-utility part fabrication.

CONCLUSION

On the basis of the foregoing, Applicants respectfully submit that Claims 16, 31, 36, 39 and 40-46 are in condition for allowance. Applicants therefore respectfully submit that all the stated grounds of rejection have been overcome. Accordingly, an early Notice of Allowance is respectfully requested. Should the Examiner have any suggestions for

expediting allowance of the application, the Examiner is invited to contact Applicant's representative at the number listed below.

Respectfully submitted,

Date: Nov 17, 2003 By: _____

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